

Title (en)
MEASUREMENTS USING TUNNELLING CURRENT BETWEEN ELONGATE CONDUCTORS

Title (de)
MESSUNGEN ZWISCHEN LANGGESTRECKTEN LEITERN UNTER VERWENDUNG DES TUNNELSTROMS

Title (fr)
MESURES EFFECTUEES A L'AIDE D'UN COURANT DE PENETRATION PAR EFFET TUNNEL ENTRE DES CONDUCTEURS ALLONGES

Publication
EP 1135665 A4 20020619 (EN)

Application
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Priority

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Abstract (en)
[origin: WO0014476A1] Apparatus for use in measuring and/or monitoring the relative position or displacement of two elements, includes a pair of elongate electrical conductors (10, 11) adapted to be associated with the respective elements, and means (12, 13, 18) for disposing the conductors at a mutual separation such that a detectable quantum tunnelling current may be generated between them on application of an electrical potential difference between the conductors.

IPC 1-7
B81B 3/00; **B81B 5/00**; **G01B 7/30**; **G01B 7/00**; **G01D 5/14**; **G01P 15/08**; **G01P 3/46**

IPC 8 full level
G01B 7/30 (2006.01); **B81B 3/00** (2006.01); **B81B 5/00** (2006.01); **G01B 7/00** (2006.01); **G01D 5/14** (2006.01); **G01P 3/46** (2006.01); **G01P 15/08** (2006.01); **G01Q 60/10** (2010.01); **G01R 27/08** (2006.01); **G01R 31/08** (2006.01)

IPC 8 main group level
G01B (2006.01)

CPC (source: EP KR US)
B82Y 15/00 (2013.01 - EP US); **G01B 7/00** (2013.01 - KR); **G01B 7/14** (2013.01 - EP US); **B82Y 15/00** (2013.01 - KR)

Citation (search report)

- [X] EP 0262253 A1 19880406 - IBM [US]
- [A] US 5418771 A 19950523 - KASANUKI YUJI [JP], et al
- [X] "MICROSENSORS GET TUNNELLING", DESIGN ENGINEERING, MORGAN-GRAMPIAN LTD. LONDON, GB, 1 November 1997 (1997-11-01), pages 13, XP000727480, ISSN: 0308-8448
- [A] ROUTKEVITCH D ET AL: "NONLITHOGRAPHIC NANO-WIRE ARRAYS: FABRICATION, PHYSICS, AND DEVICE APPLICATIONS", IEEE TRANSACTIONS ON ELECTRON DEVICES, IEEE INC. NEW YORK, US, vol. 43, no. 10, 1 October 1996 (1996-10-01), pages 1646 - 1658, XP002072446, ISSN: 0018-9383
- [A] GEVATTER H-J ET AL: "DIE DIFFERENTIAL-TUNNELSTRECKE ALS HOCHAUFLOENDER LAGEABWEICHUNGSSENSOR DIFFERENTIAL-TUNNELING PROBE AS A SENSITIVE DISPLACEMENT SENSOR", F & M. FEINWERKTECHNIK MIKROTECHNIK MESSTECHNIK, CARL HANSER GMBH, MUNCHEN, DE, vol. 100, no. 12, 1 December 1992 (1992-12-01), pages 571 - 573, XP000327471, ISSN: 0944-1018
- See references of WO 0014476A1

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